

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research Organisation
Grains Research and Development Corporation

<120> Antifungal peptides

<130> 501692

<150> AU 2004900938

<151> 2004-02-24

<160> 62

<170> PatentIn version 3.3

<210> 1

<211> 64

<212> PRT

<213> Galleria mellonella

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Met Lys Phe Thr Gly Ile Phe Phe Ile Ile Met Ala Ile Ile Ala Leu
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Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
50 55 60

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<212> PRT

<213> Galleria mellonella

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Met Asn Phe Thr Gly Ile Phe Phe Met Ile Met Ala Ile Ile Ala Leu
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Phe Ile Gly Ser Asn Glu Ala Ala Pro Lys Val Asn Val Asn Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ala Ile Gly Lys Gly Phe Lys Val Ile Ser Ala
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Glu His Ile Lys Asn Arg Arg His
50 55 60

<210> 3
<211> 68
<212> PRT
<213> Galleria mellonella

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Met Arg Leu Ser Ile Ile Leu Val Val Val Met Met Val Met Ala Met
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Phe Val Ser Ser Gly Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
20 25 30

Ile Lys Lys Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn
35 40 45

Ile Ala Ser Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys
50 55 60

Lys Lys Asn His
65

<210> 4
<211> 39
<212> PRT
<213> Galleria mellonella

<400> 4

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
1 5 10 15

Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
20 25 30

His Ile Lys Asn Arg Arg His
35

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<213> Galleria mellonella

<400> 5

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys Lys Lys Asn
20 25 30

His

<210> 6
<211> 342
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<213> Galleria mellonella

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cctaaagtca atgttaatgc cattaagaag ggaggaaagg ccataggaaa aggatttaaa 180
gtaatcagtg cggcgagtac agcgcatgac gtctatgaac acattaaaaa cagaaggcac 240
taataaaacc aaaaataatt atttattta taaggttaatt ttaagacata taatgtatgt 300
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agcggcgccct aaagtcaatg ttaatgccat taagaaggaa ggaaaggcca tagggaaagg 180
atttaaagta atcagtgcgg cgagtacagc gcatgacgatc tatgaacaca ttaaaaacag 240
aaggcactaa tagaacccaa aataatcatt tattttataa ggttaatttttta agacatataa 300
tgaatgttgc aaattattaa gtggaataaa atataaaata ttttttgtt 349

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<211> 420
<212> DNA
<213> Galleria mellonella

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gagatgcggc gcctggaaaa attcctgtga aagcgattaa aaaaggaggg caaattattt 180
gtaaagctct gcgtgaaatc aatatacgat gtactgcaca tgacataatt agccagttca 240
aaccggaaaa gaagaaaaac cattgagttat ttaataaaaa atcggtcaat aatataattt 300
ataataataa taaattttac ttatattact ataataataat taatattttt aattgtgcca 360

tttttagttt ataaattata ttaagtatta atttataat taataaaaaa gcttaaatat 420

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aatgaagcgg cgccctaaagt caatgttaat gccattaaga agggagggaaa ggccatagga 120
aaaggattta aagtaatcag tgccgcgagt acagcgcattg acgtcttatga acacattaaa 180
aacagaaggc ac 192

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<211> 192
<212> DNA
<213> Galleria mellonella

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aatgaagcgg cgccctaaagt caatgttaat gccattaaga agggagggaaa ggccatagga 120
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<212> DNA
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ggagatgcgg cgccctggaaa aattcctgtg aaagcgatta aaaaaggagg gcaaattatt 120
ggtaaagctc tgcgtggaat caatatacg agtactgcac atgacataat tagccagttc 180
aaaccgaaaa agaagaaaaa ccat 204

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<213> Galleria mellonella

<400> 12
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atcagtgcgg cgagtacagc gcatgacgtc tatgaacaca taaaaacag aaggcac 117

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<211> 99
<212> DNA
<213> Galleria mellonella

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<211> 67
<212> PRT
<213> Spodoptera litura

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Met Lys Leu Thr Lys Val Phe Val Ile Leu Ile Val Val Val Ala Leu
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Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile
20 25 30

Lys Lys Ala Gly Ala Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile
35 40 45

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
50 55 60

Lys Lys His
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<211> 67
<212> PRT
<213> Manduca sexta

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Met Lys Leu Thr Ser Leu Phe Ile Phe Val Ile Val Ala Leu Ser Leu
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Leu Phe Ser Ser Thr Asp Ala Ala Pro Gly Lys Ile Pro Val Lys Ala
20 25 30

Ile Lys Gln Ala Gly Lys Val Ile Gly Lys Gly Leu Arg Ala Ile Asn
35 40 45

Ile Ala Gly Thr Thr His Asp Val Val Ser Phe Phe Arg Pro Lys Lys
50 55 60

Lys Lys His
65

<210> 16
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<212> PRT
<213> Bombyx mori

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Met Asn Ile Leu Lys Phe Phe Phe Val Phe Ile Val Ala Met Ser Leu
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Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro Ile Lys Ala Ile
20 25 30

Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg Ala Ile Asn Ile
35 40 45

Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys Pro Lys Lys Arg
50 55 60

Lys His
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<210> 17
<211> 41
<212> PRT
<213> Heliothis virescens

<400> 17

Gly Lys Ile Pro Ile Gly Ala Ile Lys Lys Ala Gly Lys Ala Ile Gly
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Lys Gly Leu Arg Ala Val Asn Ile Ala Ser Thr Ala His Asp Val Tyr
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Thr Phe Phe Lys Pro Lys Lys Arg His
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<210> 18
<211> 66
<212> PRT
<213> Bombyx mori

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7/22

Met Ile Cys Ser Gly Gln Ala Asp Pro Lys Ile Pro Val Lys Ser Leu
20 25 30

Lys Lys Gly Gly Lys Val Ile Ala Lys Gly Phe Lys Val Leu Thr Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Arg Asn Arg Gly Asn
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Gln Gly
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<210> 19
<211> 32
<212> PRT
<213> Galleria mellonella

<400> 19

Lys Val Asn Val Asn Ala Ile Lys Lys Gly Gly Lys Ala Ile Gly Lys
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Gly Phe Lys Val Ile Ser Ala Ala Ser Thr Ala His Asp Val Tyr Glu
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<210> 20
<211> 28
<212> PRT
<213> Galleria mellonella

<400> 20

Gly Gly Gln Ile Ile Gly Lys Ala Leu Arg Gly Ile Asn Ile Ala Ser
1 5 10 15

Thr Ala His Asp Ile Ile Ser Gln Phe Lys Pro Lys
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<210> 21
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<223> Oligonucleotide primer

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<223> N = inosine

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<222> (12)..(12)
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23

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<223> N = A, C, G or T

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21

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<223> N = inosine

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<210> 24
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<212> DNA
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<210> 25
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<210> 26
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
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<400> 26
actcgccgca ctgattac 18

<210> 27
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<213> Artificial Sequence

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<223> Oligonucleotide primer

<400> 27
ggggggcaga tcattggg 18

<210> 28
<211> 19
<212> DNA
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<220>
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<400> 28
ttatgtcatg ggccgtact 19

<210> 29
<211> 337
<212> DNA
<213> Galleria mellonella

<400> 29
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attcttcata attatggcga tcattgcct ctttataggg tcaaatgaag cggcgccctaa 120
agtcaatgtt aatgccatta agaaggagg aaaggccata ggaaaaggat taaaagtaat 180
cagtgcggcg agtacagcgc atgacgtcta tgaacacatt aaaaacagaa ggcactaata 240
aaaccaaaaa taattattta ttttataagg taatttaag acatataatg tatgttgcaa 300
attattaagt gaaataaaaat ataaaatatt ttttgtt 337

<210> 30
<211> 32
<212> PRT
<213> Galleria mellonella

<400> 30

Lys	Val	Pro	Ile	Gly	Ala	Ile	Lys	Lys	Gly	Gly	Lys	Ile	Ile	Lys	Lys
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Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
20 25 30

<210> 31
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide sequence

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<222> (9)..(9)
<223> N = inosine

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<223> N = inosine

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<400> 31
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<222> (12)..(12)
<223> N = inosine

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<222> (18)..(18)
<223> N = A, C, G or T

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<210> 33
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<400> 33
aggcttgggt gtaattggtg 20

<210> 34
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<400> 34
gcagcaccaa ttacaccaag 20

<210> 35
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<400> 35
taaaaagggt ctaggtgtgc 20

<210> 36
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gcggcgccaa gcacacctag 20

<210> 37
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<400> 37
cttcaatctt agtgaaaaact tcgc 24

<210> 38
<211> 24
<212> DNA
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<220>
<223> Oligonucleotide Primer

<400> 38
ggatagtaact tcataattat atac 24

<210> 39
<211> 23
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<220>
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<400> 39
gttgcaggac ttaatactta gtg 23

<210> 40
<211> 25
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<220>
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<400> 40
gagtattttta ctaataagta tgtgg 25

<210> 41
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

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<210> 42
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 42
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<210> 43
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 43
cgccagagga ccccctaaac

19

<210> 44
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide Primer

<400> 44
atcgatgcc aAACCAAGAG A

21

<210> 45
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
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<400> 45
tcgaaggaga tgccaccatg aagtttacag gaatattctt ca

42

<210> 46
<211> 33
<212> DNA
<213> Artificial Sequence

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<223> Oligonucleotide Primer

<400> 46
ttagtgcctt ctgttttaa tgtgttcata gac

33

<210> 47
<211> 63
<212> PRT
<213> Galleria mellonella

<400> 47

Met Lys Leu Thr Gly Leu Phe Phe Met Ile Met Ala Met Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Ile Gly Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Ser His Val Lys Asn Arg His
50 55 60

<210> 48
<211> 38
<212> PRT
<213> Galleria mellonella

<400> 48

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
1 5 10 15

Gly Leu Gly Val Ile Gly Ala Ala Gly Thr Ala His Glu Val Tyr Ser
20 25 30

His Val Lys Asn Arg His
35

<210> 49
<211> 375
<212> DNA
<213> Galleria mellonella

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ctgtttgttg gcgcgttgtca agccgaccct aaggtgccc ttggcgccat caagaagggt 180
ggcaaaatta ttaaaaaagg tcttggtgta attggtgccg ctggcacagc gcatgaagta 240
tatagccacg tcaagaacag gcattagatt ctgaaagaat atatagtata taattatgaa 300
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atttatacctc gtgcc 375

<210> 50
<211> 192
<212> DNA
<213> Galleria mellonella

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aaaggtcttg gtgtattgg tgccgctgg acagcgcatt aagtatataccacgtcaag 180
aacaggcatt ag 192

<210> 51
<211> 117
<212> DNA
<213> Galleria mellonella

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atgggtgccg ctggcacgc gcatgaagta tatagccacg tcaagaacag gcattag 117

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<211> 63
<212> PRT
<213> Galleria mellonella

<400> 52

Met Lys Leu Thr Gly Leu Phe Leu Met Ile Met Ala Val Leu Ala Leu
1 5 10 15

Phe Val Gly Ala Gly Gln Ala Asp Pro Lys Val Pro Ile Gly Ala Ile
20 25 30

Lys Lys Gly Gly Lys Ile Ile Lys Lys Gly Leu Gly Val Leu Gly Ala
35 40 45

Ala Gly Thr Ala His Glu Val Tyr Asn His Val Arg Asn Arg Gln
50 55 60

<210> 53
<211> 38
<212> PRT
<213> Galleria mellonella

<400> 53

Lys Val Pro Ile Gly Ala Ile Lys Lys Gly Gly Lys Ile Ile Lys Lys
1 5 10 15

Gly Leu Gly Val Leu Gly Ala Ala Gly Thr Ala His Glu Val Tyr Asn
20 25 30

His Val Arg Asn Arg Gln
35

<210> 54
<211> 462
<212> DNA
<213> Galleria mellonella

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accatgaagc tgaccggctt atttctcatg atcatggcg gtcgcgtt gtttggc	120
gctggtaag ccgaccctaa ggtgccatt ggcgttatca agaaggcg caaaattatt	180
aaaaagggtc taggtgtct tggccgcgc ggcacagc acgaagtgtt caaccacgtt	240
aggaacaggc agtaacgtca tgcgtgattt ttgtacatac agtacttaca atacgatttg	300
tcttggtgt gatatatctt tagataaatt aatttataat accacatact tatttagtaaa	360
atactcaaat atattgatta tagatacatt aataaattt aattattaca atattttgtt	420
tttatgtaca atgcgaatag atttaccct ctgcctcgcc cc	462

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aagggtctag gtgtgcttgg cgccgcggc acagcgcacg aagtgtacaa ccacgtttagg	180
aacaggcagt aa	192

<210> 56	
<211> 117	
<212> DNA	
<213> Galleria mellonella	
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cttggcgccg cggcacagc gcacgaagtg tacaaccacg ttaggaacag gcagtaa	117

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<400> 57	

Met Lys Leu Thr Lys Val Phe Val Ile Val Ile Val Val Val Ala Leu	
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Leu Val Pro Ser Glu Ala Ala Pro Gly Lys Ile Pro Val Lys Ala Ile	
20 25 30	

Lys Lys Ala Gly Thr Ala Ile Gly Lys Gly Leu Arg Ala Ile Asn Ile	
35 40 45	

Ala Ser Thr Ala His Asp Val Tyr Ser Phe Phe Lys Pro Lys His Lys
50 55 60

Lys Lys His
65

<210> 58
<211> 54
<212> PRT
<213> Hyblaea puera

<400> 58

Ala Met Ser Leu Val Ser Cys Ser Thr Ala Ala Pro Ala Lys Ile Pro
1 5 10 15

Ile Lys Ala Ile Lys Thr Val Gly Lys Ala Val Gly Lys Gly Leu Arg
20 25 30

Ala Ile Asn Ile Ala Ser Thr Ala Asn Asp Val Phe Asn Phe Leu Lys
35 40 45

Pro Lys Lys Arg Lys His
50

<210> 59
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<212> PRT
<213> Caligo illioneus

<400> 59

Gly Lys Ile Pro Ile Asn Ala Ile Arg Lys Gly Ala Lys Ala Val Gly
1 5 10 15

His Gly Leu Arg Ala Leu Asn Ile Ala Ser Thr Ala His Asp Ile Ala
20 25 30

Ser Ala Phe His Arg Lys Arg Lys His
35 40

<210> 60
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<213> Caligo illioneus

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Arg Lys Ile Pro Val Glu Ala Ile Lys Lys Gly Ala Ser Arg Ala Trp
1 5 10 15

Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala Ser Ile Phe
20 25 30

Asn Arg Lys Arg Glu.
35

<210> 61
<211> 40
<212> PRT
<213> Caligo illioneus

<400> 61

Gly Lys Ile Pro Val Glu Ala Leu Lys Lys Gly Ala Lys Val Ala Gly
1 5 10 15

Arg Ala Trp Arg Ala Leu Asp Leu Ala Ser Thr Ala Tyr Asp Ile Ala
20 25 30

His Leu Phe Asp Arg Lys Arg Asn
35 40

<210> 62
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<212> PRT
<213> Artificial Sequence

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<223> Consensus sequence for Galleria peptides

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<223> Xaa = GLY, PRO, ALA or ABSENT, or more preferably GLY or ABSENT

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<222> (3)..(3)
<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

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<222> (4)..(4)
<223> Xaa = PRO, GLY, ASN, GLN or HIS, or more preferably PRO or ASN

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<223> Xaa = ILE, VAL, ALA, LEU, MET or PHE, or more preferably ILE or VAL

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<223> Xaa = GLN, ASN, HIS, LYS or ARG, or more preferably GLN or LYS

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<223> Xaa = ILE, VAL, ALA, LEU or GLY, or more preferably ILE or ALA

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<222> (16)..(16)
<223> Xaa = GLY, PRO, ALA, LYS or ARG, or more preferably GLY or LYS

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Xaa
35 40